

Environmental Compliance Meets Campus Greening

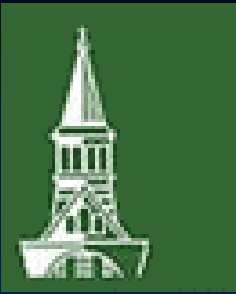
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UVM's History of Environmental Management

- Since 1987: Recycling Program, initially organized by student environmental group, adopted by Physical Plant
- Since 1990: Energy Conservation Program in the Physical Plant Department in response to Demand Side Management incentives
- 1994: Hazardous Waste Program opens a new building built after a “regulatory interaction”
- 1996: Environmental Council organized by environmental studies faculty member
- 1997: UVM begins participation in Project XL for regulatory reinvention in response to EPA enforcement initiative
- 1999-2001 A variety of EC activities: Hg swap, bio-diesel buses, solar arrays, green building discussions

The national NWF Survey indicates UVM is a typical “environmental school”

- 80% have lighting efficiency upgrades to save electricity.
- Almost all schools have programs to increase energy efficiency for heating, ventilation, air conditioning and water use.
- Nearly a quarter get some of their energy from renewable sources.
- 12% of the schools use alternative fuels in at least part of their fleet.
- 72% of schools reporting they have installed efficient toilets, showerheads and faucets.
- Recycling is one of the more popular campus environmental programs (65% of the schools); they divert about 26% on average - UVM is around 35%.
- See <http://www.nwf.org/campusecology> for more survey information on curriculum and motivators

What have we learned about campus greening?



- Environmental issues are of interest to a wide range of audiences:
 - Environmentally concerned students
 - Faculty and researchers
 - Upper administration
 - Campus managers
 - State and federal officials
 - Fundraisers and funders
 - Best practices consultants
 - Local community

The key to progress is being able to communicate with these various audiences in their own language

- Students and academics respond to projects with broad scope and quick payback
- Technocrats and civil servants tend to respond to regulatory approaches based on long term, permanent changes
- Fund-raisers and funders want to stimulate greater movement than their current funds allow.
- Upper administration has a limited set of tools that it can apply to a problem it wants to act on: budget priorities, cheerleading and leadership



The Missing Link: Regulatory “Incentives”

- Most environmental regulations are written for industrial settings; they do not apply well to diverse facilities with a wide variety of environmental impacts, such as a college campus.
- In general, the academic management style does not match regulators’ expectations and regulatory requirements do not fit campus cultures.
- **Bottom Line:** Campus regulatory compliance must be managed, not assumed.

Two Approaches to Problems: Campus Greening vs. Regulations

■ Greening

- Proactive
- Speculative goals, able to change with time
- Hands-on oriented
- General public language and audience
- Education/demonstration is as important as specific environmental impacts
- Oriented towards finding a sustainable future

■ Regulations

- Reactive
- Defined goals, subject to legal interpretation
- Management oriented
- Technical language and audience
- Success tied to achieving goals
- Oriented towards avoiding past environmental mistakes

Greening vs. Regulations (1): Hazardous Waste

- Greening Program:
Mercury thermometer
replacement
- Results
 - Spill reduction
 - Public interest
 - Governor's award



- Regulations:
focus on waste
management practices,
container-by-container
- Goal: reduce the number
of pounds of hazardous
waste generated
 - RCRA in labs can be a
problem.
 - Project XL attempts to
integrate good waste
management practices into
lab habits to reduce the
amount of waste produced.

Greening vs. Regulations (2): Transportation

- Greening Program:
Alternately fueled transit
- Goal: reduce air pollution by increasing number of alternatively fueled vehicles, demonstrating their feasibility
- Actions:
 - Use of biodiesel in campuses buses
 - Purchase of hybrid vehicles
- Regulatory approach:
Air pollution permit
- Approach: reduce air pollution by controlling the number of parking spaces



Greening vs. Regulations (3): Energy Use

- Greening Program:
Energy conservation and use of alternate fuels
 - Energy conservation upgrades (primarily aimed at electricity)
 - Greenhouse gases emissions inventory led to interest in cogeneration, in this case “community energy”
 - Solar energy demonstration

- Regulatory approach:
Emissions control based on the air pollution permit permit
 - Controls opacity, NO_x, SO_x, CO and air toxics



The challenge is deciding where to put your (and your institution's) resources

- Greening ideas are often inspirational, but can be expensive or impractical to maintain over time and of limited pollution prevention value.
- It is important to develop a system to track the success of these ideas over time. This is one thing the compliance community has developed skills around.
- Compliance must be managed, not assumed

There is an (creative) tension between Technocracy and Collaboration

- Environmental Management Systems

- Environmental Indicators:

"The indicators a society chooses to report to itself about itself are surprisingly powerful. They reflect collective values and inform collective decisions. A nation that keeps a watchful eye on its salmon run or the safety of its streets makes different choices than does a nation that is only paying attention to its GNP. The idea of citizens choosing their own indicators is something new under the sun - something intensely democratic."

- Donella Meadows

"You get what you inspect, not what you expect

- The SAFETY list

- Benchmarking your efforts is an important tool to avoid reinventing the wheel.

Goals of our Priorities Survey

- Compare and contrast what's on the minds of people involved in the two different approaches.
- The regulatory approach is represented by the HHMI EHS directors
- Four sections to the survey:
 - Your priorities
 - Your resources
 - Perceived challenges
 - Perceived opportunities
- Compare with the NWF survey

For More Information

- UVM Environmental Council web site
 - <http://esf.uvm.edu/envcnccl>
- UVM Environmental Safety web site
 - <http://esf.uvm.edu>
- Project XL
 - <http://www.c2e2.org>